

The Properties of Far-IR Sources in Deep Spitzer Fields

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We present source counts from deep Spitzer imaging, which include 50,000 sources at 24 μm to an 80% flux-density completeness limit of 60 μJy . The peak in the differential 24 μm number counts correspond to a population of fainter sources that are not expected from predictions based on 15 μm counts from ISO. We present evidence that this corresponds to a significant population of infrared-luminous galaxies at $z \sim 1-3$. Integrating the counts, we derive an lower limit on the 24 μm background intensity. Combining the observed counts with updated phenomenological models, we estimate the flux confusion limits for Spitzer at 24–160 μm , and discuss implications for future far-IR observatories.